

## **REMARKS**

Claims 20-26, 29, 32-36, and 38-41 are all of the pending claims, with claims 20 and 38 being written in independent form. By virtue of this Amendment, Applicants cancel claims 27, 28, 30, 31 and 37, without prejudice or disclaimer, and add new claims 40 and 41.

### **I. Examiner Teleconference:**

Applicants thank the Examiner for the courtesies extended during the teleconference conducted on June 12, 2009. During the teleconference conference, Applicants presented traversal arguments against the Restriction Requirement, and inquired about the treatment of further amendments to independent claim 20. In response, the Examiner agreed to withdraw the Restriction Requirement, and indicated that a Request for Continued Examination (“RCE”) would be necessary to have further claim amendments entered in this application.

In view of the teleconference, Applicants concurrently submit an RCE.

The above description, which is believed to satisfy the requirements of MPEP 713.04, is intended as an explanation only and is not intended to limit the invention defined by the pending claims. In addition, the following remarks reflect (among other things) the various points discussed during the interview.

### **II. Restriction Requirement:**

On page 2 of the Office Action, the Examiner indicates that the originally presented invention (as defined by claims 20-37) has been constructively elected because Applicants have already received an action on the merits for the originally presented invention, and because claims 38-39 are independent and distinct from the invention originally claimed. Applicants respectfully disagree for the following reasons:

First, the Examiner’s remarks concerning combination/subcombination claims is not relevant because this application is a national stage application under 35 USC §371. Accordingly, unity of invention (not restriction) practice applies.

Second, the “special technical features” common to each of the Group I and Group II inventions resides in the characteristics of the thermal radiation being emitted in the claimed method. These thermal radiation characteristics include:

- (1) a concentration at wavelengths for which water has an absorption coefficient greater than approximately  $1,000\text{ cm}^{-1}$  (claims 20 + 21 of Group I) ... or a

- greater intensity at wavelengths for which water has an absorption coefficient greater than  $1,000\text{ cm}^{-1}$  (claim 38); and
- (2) wavelengths that are shorter than the openings of the surface structure of the material.

Applicants respectfully contend that these common technical features define a contribution over the art, and therefore link the inventions of Group I and II (as identified by the Examiner) to form a single general inventive concept. In this regard, the claims are not directed to different inventions. Rather, they are different definitions of the same disclosed subject matter, varying in breadth or scope of definition. Furthermore, the pertinent examination guidelines indicate that the benefit of any doubt concerning the “contribution” over the prior art must be given to the Applicant.<sup>1</sup>

For at least these reasons, Applicants respectfully request the Examiner to reconsider and withdraw the Restriction Requirement.

### **III. Claim Rejections on Prior Art Grounds:**

The Examiner rejects claims 20, 27, 28 and 31 under 35 USC §102(b) as being anticipated by 5,220,733 to Bothe et al. (“Bothe”); and claims 21-26, 29, 30 and 32-37 under 35 USC §103(a) as being obvious over Bothe in view of US 4,050,900 to Hobbs et al. (“Hobbs”). Applicants respectfully traverse these rejections in view of the following remarks.

Applicants still believe that the pending claims are patentable for all of the reasons noted in the December 22, 2008 Amendment, which is incorporated herein in its entirety.

Furthermore, as discussed below, Applicants amend independent claim 20 to recite additional features that are not taught or suggested by the references cited by the Examiner.

#### **A. Independent Claim 20:**

##### The Thermal Radiation Feature

Applicants note the Examiner’s characterization of the claim term “*is used*” as a statement of intended use.<sup>2</sup> As a path of least resistance, and in accordance with the Examiner’s helpful suggestions during the June 12 teleconference, Applicants amend the thermal radiation feature of claim 20 by altogether deleting the term “*is used*” in favor of more positive recitations. According to amended claim 20, the method involves “*emitting thermal radiation ..., wherein*

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<sup>1</sup> MPEP 1850, II.

<sup>2</sup> Office Action, p. 4, lines 1+.

*the thermal radiation is concentrated to one or more distinct wavelength ranges at which water has peaks for absorption of radiation energy, and the wavelengths of the thermal radiation are shorter than the openings of the surface structure of the sewage sludge.”* This feature is not a statement of intended use.

Bothe is not relevant for the reasons pointed out in the December 28, 2008 Amendment. For example, Bothe merely indicates that the material is exposed to “high intensity infrared flux” from the radiant plate 66.<sup>3</sup> This disclosure is far too broad to teach or suggest the specific wavelength features recited in claim 20.

#### The Conveyor Feature

Claim 20 recites “*receiving the sewage sludge on a conveyor made of net that is located inside the chamber.*” This feature finds support in the specification at page 5, lines 19-21. This is in contrast to Bothe’s material handling system, which includes, a tank 34, displacement pumps 36, a pipe 38, a distribution cone 42, input lines 46 and auger banks 52, 54, 56.<sup>4</sup>

#### The Element Feature

Claim 20 recites emitting thermal radiation from at least one element that “*is positioned between an upper part and a lower part of the conveyor.*” This feature finds support in the specification at page 5, lines 21-24, and is shown in Fig. 2. Bothe is not relevant because the disclosed radiant plate 66 is positioned to one side of the auger banks 52, 54, 56, as shown in Figs. 5A and 5B.

#### The Energy Recovery Feature

Claim 20 recites “*recovering energy from the moisture using a condenser.*” This feature finds support in the specification at page 7, lines 19-21, and is shown in Fig. 3.

#### The Constant Temperature Feature

Claim 20 recites “*maintaining the sewage sludge at a constant temperature within the range of 70-120° during the dehumidification cycle.*” This feature finds support in the specification at page 9, lines 25+, and originally presented claim 12. Bothe merely indicates that

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<sup>3</sup> Bothe, col. 6, lines 27-30 and 54-57.

<sup>4</sup> See Bothe, Fig. 2.

the temperature of the material being processed is kept below 130°C.<sup>5</sup> But the reference makes no mention of a constant temperature, as claimed.

**B. Independent Claim 38:**

Independent claim 38 is also directed to a method for treating a material using thermal radiation. According to claim 38, the thermal radiation:

- (1) has a relatively greater intensity in at least one wavelength range for which water has an absorption coefficient greater than 1,000 cm<sup>-1</sup>,
- (2) has a relatively lesser intensity at wavelengths outside of said at least one wavelength range, and
- (3) has wavelengths that are shorter than the openings of the surface structure of the material.

Bothe is not believed to be relevant for reasons analogous to some of those noted above with respect to claim 20. Specifically, Bothe merely indicates that the material is exposed to “high intensity infrared flux” from the radiant plate 66. And this disclosure is far too broad to teach or suggest the specific wavelength features of the claimed invention.

**CONCLUSION**

For at least the reasons discussed above, Applicants earnestly solicit reconsideration and allowance of all of the pending claims.

Pursuant to 37 CFR §§ 1.17 and 1.136(a), Applicants petition for a one (1) month extension of time for filing a reply to the Office Action and concurrently submit the required extension fee.

The Commissioner is authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-4446 for any additional fees required under 37 CFR § 1.16 or under 37 CFR § 1.17; particularly, extension of time fees.

Respectfully submitted,

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<sup>5</sup> Bothe, col. 9, lines 58-60.